OIPE

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RAW SEQUENCE LISTING                    DATE: 02/07/2002
PATENT APPLICATION:  US/10/050,673      TIME: 14:38:47

       Input Set : N:\Crf3\RULE60\10050673.raw
       Output Set: N:\CRF3\02072002\J050673.raw
```

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 1 <110> APPLICANT: David M. Knipe
 2         Travis J. Taylor
 3         Elizabeth McNamee
 4 <120> TITLE OF INVENTION: Replication-Competent Virus Expressing A
 5         Fusion Protein
 6 <130> FILE REFERENCE: HU98-05
 7 <140> CURRENT APPLICATION NUMBER: 10/050,673
 8 <141> CURRENT FILING DATE: 2002-01-16
10 <150> PRIOR APPLICATION NUMBER: US/09/127,227
11 <151> PRIOR FILING DATE: 1998-07-31
14 <160> NUMBER OF SEQ ID NOS: 6
15 <170> SOFTWARE: FastSEQ for Windows Version 3.0
17 <210> SEQ ID NO: 1
18 <211> LENGTH: 4359
19 <212> TYPE: DNA
20 <213> ORGANISM: herpesvirus
21 <220> FEATURE:
22 <221> NAME/KEY: CDS
23 <222> LOCATION: (1)...(4359)
24 <400> SEQUENCE: 1
25     atg gag aca aag ccc aag acg gca acc acc atc aag gtc ccc ccc ggg      48
26     Met Glu Thr Lys Pro Lys Thr Ala Thr Thr Ile Lys Val Pro Pro Gly
27      1               5                  10                  15
28     ccc ctg gga tac gtg tac gct cgc gcg tgt ccg tcc gaa ggc atc gag      96
29     Pro Leu Gly Tyr Val Tyr Ala Arg Ala Cys Pro Ser Glu Gly Ile Glu
30                     20                  25                  30
31     ctt ctg gcg tta ctg tcg gcg cgc agc ggc gat gcc gac gtc gcc gtg     144
32     Leu Leu Ala Leu Leu Ser Ala Arg Ser Gly Asp Ala Asp Val Ala Val
33                     35                  40                  45
34     gcg ccc ctg gtc gtg ggc ctg acc gtg gag agc ggc ttt gag gcc aac     192
35     Ala Pro Leu Val Val Gly Leu Thr Val Glu Ser Gly Phe Glu Ala Asn
36             50                  55                  60
37     gta gcc gtg gtc gtg ggt tct cgc acg acg ggg ctc ggg ggt acc gcg     240
38     Val Ala Val Val Val Gly Ser Arg Thr Thr Gly Leu Gly Gly Thr Ala
39         65                  70                  75                  80
40     gtg tcc ctg aaa ctg acg cca tcg cac tac agc tcg tcc gtg tac gtc     288
41     Val Ser Leu Lys Leu Thr Pro Ser His Tyr Ser Ser Ser Val Tyr Val
42                     85                  90                  95
43     ttt cac ggc ggc cgg cac ctg gac ccc agc acc cag gcc cca aac ctg     336
44     Phe His Gly Gly Arg His Leu Asp Pro Ser Thr Gln Ala Pro Asn Leu
45                     100                 105                 110
46     acg cga ctc tgc gag cgg gca cgc cgc cat ttt ggc ttt tcg gac tac     384
47     Thr Arg Leu Cys Glu Arg Ala Arg Arg His Phe Gly Phe Ser Asp Tyr
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48               115                 120                 125
49   acc ccc cgg ccc ggc gac ctc aaa cac gag acg acg ggg gag gcg ctg      432
50   Thr Pro Arg Pro Gly Asp Leu Lys His Glu Thr Thr Gly Glu Ala Leu
51           130                 135                 140
52   tgt gag cgc ctc ggc ctg gac ccg gac cgc gcc ctc ctg tat ctg gtc      480
53   Cys Glu Arg Leu Gly Leu Asp Pro Asp Arg Ala Leu Leu Tyr Leu Val
54   145                 150                 155                 160
55   gtt acc gag ggc ttc aag gag gcc gtg tgc atc aac aac acc ttt ctg      528
56   Val Thr Glu Gly Phe Lys Glu Ala Val Cys Ile Asn Asn Thr Phe Leu
57                   165                 170                 175
58   cac ctg gga ggc tcg gac aag gta acc ata ggc ggg gcg gag gtg cac      576
59   His Leu Gly Gly Ser Asp Lys Val Thr Ile Gly Gly Ala Glu Val His
60               180                 185                 190
61   cgc ata ccc gtg tat ccg ttg cag ctg ttc atg ccg gat ttt agc cgg      624
62   Arg Ile Pro Val Tyr Pro Leu Gln Leu Phe Met Pro Asp Phe Ser Arg
63               195                 200                 205
64   gtc atc gcc gag ccg ttc aac gcc aac cac cga tcg atc ggg gag aat      672
65   Val Ile Ala Glu Pro Phe Asn Ala Asn His Arg Ser Ile Gly Glu Asn
66           210                 215                 220
67   ttt acc tac ccg ctt ccg ttt ttt aac cgc ccc ctc aac cgc ctc ctg      720
68   Phe Thr Tyr Pro Leu Pro Phe Phe Asn Arg Pro Leu Asn Arg Leu Leu
69   225                 230                 235                 240
70   ttc gag gcg gtc gtg gga ccc gcc gcc gtg gca ctg cga tgc cga aac      768
71   Phe Glu Ala Val Val Gly Pro Ala Ala Val Ala Leu Arg Cys Arg Asn
72                   245                 250                 255
73   gtg gac gcc gtg gcc cgc gcg gcc gcc cac ctg gcg ttt gac gaa aac      816
74   Val Asp Ala Val Ala Arg Ala Ala Ala His Leu Ala Phe Asp Glu Asn
75               260                 265                 270
76   cac gag ggc gcc gcc ctc ccc gcc gac att acg ttc acg gcc ttc gaa      864
77   His Glu Gly Ala Ala Leu Pro Ala Asp Ile Thr Phe Thr Ala Phe Glu
78               275                 280                 285
79   gcc agc cag ggt aag acc ccg cgg ggt ggg cgc gac ggc ggc ggc aag      912
80   Ala Ser Gln Gly Lys Thr Pro Arg Gly Gly Arg Asp Gly Gly Gly Lys
81           290                 295                 300
82   ggc ccg gcg ggc ggg ttc gaa cag cgc ctg gcc tcc gtc atg gcc gga      960
83   Gly Pro Ala Gly Gly Phe Glu Gln Arg Leu Ala Ser Val Met Ala Gly
84   305                 310                 315                 320
85   gac gcc gcc ctg gcc ctc gag tct atc gtg tcg atg gcc gtc ttc gac     1008
86   Asp Ala Ala Leu Ala Leu Glu Ser Ile Val Ser Met Ala Val Phe Asp
87                   325                 330                 335
88   gag ccg ccc acc gac atc tcc gcg tgg ccg ctg tgc gag ggc cag gac     1056
89   Glu Pro Pro Thr Asp Ile Ser Ala Trp Pro Leu Cys Glu Gly Gln Asp
90               340                 345                 350
91   acg gcc gcg gcc cgc gcc aac gcc gtc ggg gcg tac ctg gcg cgc gcc     1104
92   Thr Ala Ala Ala Arg Ala Asn Ala Val Gly Ala Tyr Leu Ala Arg Ala
93           355                 360                 365
94   gcg gga ctc gtg ggg gcc atg gta ttt agc acc aac tcg gcc ctc cat     1152
95   Ala Gly Leu Val Gly Ala Met Val Phe Ser Thr Asn Ser Ala Leu His
96           370                 375                 380
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 97     ctc acc gag gtg gac gac gcc ggt ccg gcg gac cca aag gac cac agc    1200
 98     Leu Thr Glu Val Asp Asp Ala Gly Pro Ala Asp Pro Lys Asp His Ser
 99     385                 390                 395                 400
100     aaa ccc tcc ttt tac cgc ttc ttc ctc gtg ccc ggg acc cac gtg gcg    1248
101     Lys Pro Ser Phe Tyr Arg Phe Phe Leu Val Pro Gly Thr His Val Ala
102                         405                 410                 415
103     gcc aac cca cag gtg gac cgc gag gga cac gtg gtg ccc ggg ttc gag    1296
104     Ala Asn Pro Gln Val Asp Arg Glu Gly His Val Val Pro Gly Phe Glu
105                         420                 425                 430
106     ggt cgg ccc acc gcg ccc ctc gtc ggc gga acc cag gaa ttt gcc ggc    1344
107     Gly Arg Pro Thr Ala Pro Leu Val Gly Gly Thr Gln Glu Phe Ala Gly
108                 435                 440                 445
109     gag cac ctg gcc atg ctg tgt ggg ttt tcc ccg gcg ctg ctg gcc aag    1392
110     Glu His Leu Ala Met Leu Cys Gly Phe Ser Pro Ala Leu Leu Ala Lys
111             450                 455                 460
112     atg ctg ttt tac ctg gag cgc tgc gac ggc ggc gtg atc gtc ggg cgc    1440
113     Met Leu Phe Tyr Leu Glu Arg Cys Asp Gly Gly Val Ile Val Gly Arg
114     465                 470                 475                 480
115     cag gag atg gac gtg ttt cga tac gtc gcg gac tcc aac cag acc gac    1488
116     Gln Glu Met Asp Val Phe Arg Tyr Val Ala Asp Ser Asn Gln Thr Asp
117                         485                 490                 495
118     gtg ccc tgc aac ctg tgc acc ttc gac acg cgc cac gcc tgc gta cac    1536
119     Val Pro Cys Asn Leu Cys Thr Phe Asp Thr Arg His Ala Cys Val His
120                 500                 505                 510
121     acg acg ctc atg cgc ctc cgg gcg cgc cat ccc aag ttc gcc agc gcc    1584
122     Thr Thr Leu Met Arg Leu Arg Ala Arg His Pro Lys Phe Ala Ser Ala
123             515                 520                 525
124     gcc cgc gga gcc atc ggc gtc ttc ggg acc atg aac agc atg tac agc    1632
125     Ala Arg Gly Ala Ile Gly Val Phe Gly Thr Met Asn Ser Met Tyr Ser
126             530                 535                 540
127     gac tgc gac gtg ctg gga aac tac gcc gcc ttc tcg gcc ctg aag cgc    1680
128     Asp Cys Asp Val Leu Gly Asn Tyr Ala Ala Phe Ser Ala Leu Lys Arg
129     545                 550                 555                 560
130     gcg gac gga tcc gag acc gcc cgg acc atc atg cag gag acg tac cgc    1728
131     Ala Asp Gly Ser Glu Thr Ala Arg Thr Ile Met Gln Glu Thr Tyr Arg
132                 565                 570                 575
133     gcg gcg acc gag cgc gtc atg gcc gaa ctc gag acc ctg cag tac gtg    1776
134     Ala Ala Thr Glu Arg Val Met Ala Glu Leu Glu Thr Leu Gln Tyr Val
135                 580                 585                 590
136     gac cag gcg gtc ccc acg gcc atg ggg cgg ctg gag acc atc atc acc    1824
137     Asp Gln Ala Val Pro Thr Ala Met Gly Arg Leu Glu Thr Ile Ile Thr
138                 595                 600                 605
139     aac cgc gag gcc ctg cat acg gtg gtg aac aac gtc agg cag gtc gtg    1872
140     Asn Arg Glu Ala Leu His Thr Val Val Asn Asn Val Arg Gln Val Val
141             610                 615                 620
142     gac cgc gag gtg gag cag ctg atg cgc aac ctg gtg gag ggg agg aac    1920
143     Asp Arg Glu Val Glu Gln Leu Met Arg Asn Leu Val Glu Gly Arg Asn
144     625                 630                 635                 640
145     ttc aag ttt cgc gac ggt ctg ggc gag gcc aac cac gcc atg tcc ctg    1968
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146        Phe Lys Phe Arg Asp Gly Leu Gly Glu Ala Asn His Ala Met Ser Leu
147                        645                 650                 655
148        acg ctg gac ccg tac gcg tgc ggg cca tgc ccc ctg ctt cag ctt ctc    2016
149        Thr Leu Asp Pro Tyr Ala Cys Gly Pro Cys Pro Leu Leu Gln Leu Leu
150                        660                 665                 670
151        ggg cgg cga tcc aac ctc gcc gtg tat cag gac ctg gcc ctg agc cag    2064
152        Gly Arg Arg Ser Asn Leu Ala Val Tyr Gln Asp Leu Ala Leu Ser Gln
153                        675                 680                 685
154        tgc cac ggg gtg ttc gcc ggg cag tcg gtc gag ggg cgc aac ttt cgc    2112
155        Cys His Gly Val Phe Ala Gly Gln Ser Val Glu Gly Arg Asn Phe Arg
156                        690                 695                 700
157        aat caa ttc caa ccg gtg ctg cgg cgg cgc gtg atg gac atg ttt aac    2160
158        Asn Gln Phe Gln Pro Val Leu Arg Arg Arg Val Met Asp Met Phe Asn
159        705                 710                 715                 720
160        aac ggg ttt ctg tcg gcc aaa acg ctg acg gtc gcg ctc tcg gag ggg    2208
161        Asn Gly Phe Leu Ser Ala Lys Thr Leu Thr Val Ala Leu Ser Glu Gly
162                        725                 730                 735
163        gcg gct atc tgc gcc ccc agc cta acg gcc ggc cag acg gcc ccc gcc    2256
164        Ala Ala Ile Cys Ala Pro Ser Leu Thr Ala Gly Gln Thr Ala Pro Ala
165                        740                 745                 750
166        gag agc agc ttc gag ggc gac gtt gcc cgc gtg acc ctg ggg ttt ccc    2304
167        Glu Ser Ser Phe Glu Gly Asp Val Ala Arg Val Thr Leu Gly Phe Pro
168                        755                 760                 765
169        aag gag ctg cgc gtc aag agc cgc gtg ttg ttc gcg ggc gcg agc gcc    2352
170        Lys Glu Leu Arg Val Lys Ser Arg Val Leu Phe Ala Gly Ala Ser Ala
171                        770                 775                 780
172        aac gcg tcc gag gcc gcc aag gcg cgg gtc gcc agc ctc cag agc gcc    2400
173        Asn Ala Ser Glu Ala Ala Lys Ala Arg Val Ala Ser Leu Gln Ser Ala
174        785                 790                 795                 800
175        tac cag aag ccc gac aag cgc gtg gac atc ctc ctc gga ccg ctg ggc    2448
176        Tyr Gln Lys Pro Asp Lys Arg Val Asp Ile Leu Leu Gly Pro Leu Gly
177                        805                 810                 815
178        ttt ctg ctg aag cag ttc cac gcg gcc atc ttc ccc aac ggc aag ccc    2496
179        Phe Leu Leu Lys Gln Phe His Ala Ala Ile Phe Pro Asn Gly Lys Pro
180                        820                 825                 830
181        ccg ggg tcc aac cag ccg aac ccg cag tgg ttc tgg acg gcc ctc caa    2544
182        Pro Gly Ser Asn Gln Pro Asn Pro Gln Trp Phe Trp Thr Ala Leu Gln
183                        835                 840                 845
184        cgc aac cag ctt ccc gcc cgg ctc ctg tcg cgc gag gac atc gag acc    2592
185        Arg Asn Gln Leu Pro Ala Arg Leu Leu Ser Arg Glu Asp Ile Glu Thr
186                        850                 855                 860
187        atc gcg ttc att aaa aag ttt tcc ctg gac tac ggc gcg ata aac ttt    2640
188        Ile Ala Phe Ile Lys Lys Phe Ser Leu Asp Tyr Gly Ala Ile Asn Phe
189        865                 870                 875                 880
190        att aac ctg gcc ccc aac aac gtg agc gag ctg gcg atg tac tac atg    2688
191        Ile Asn Leu Ala Pro Asn Asn Val Ser Glu Leu Ala Met Tyr Tyr Met
192                        885                 890                 895
193        gca aac cag att ctg cgg tac tgc gat cac tcg aca tac ttc atc aac    2736
194        Ala Asn Gln Ile Leu Arg Tyr Cys Asp His Ser Thr Tyr Phe Ile Asn
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195                    900              905              910
196   acc ctc acg gcc atc atc gcg ggg tcc cgc cgt ccc ccc agc gtg cag    2784
197   Thr Leu Thr Ala Ile Ile Ala Gly Ser Arg Arg Pro Pro Ser Val Gln
198            915              920              925
199   gcg gcg gcc gcg tgg tcc gcg cag ggc ggg gcg ggc ctg gag gcc ggg    2832
200   Ala Ala Ala Ala Trp Ser Ala Gln Gly Gly Ala Gly Leu Glu Ala Gly
201            930              935              940
202   gcc cgc gcg ctg atg gac gcc gtg gac gcg cat ccg ggc gcg tgg acg    2880
203   Ala Arg Ala Leu Met Asp Ala Val Asp Ala His Pro Gly Ala Trp Thr
204   945              950              955              960
205   tcc atg ttc gcc agc tgc aac ctg ctg cgg ccc gtc atg gcg gcg cgc    2928
206   Ser Met Phe Ala Ser Cys Asn Leu Leu Arg Pro Val Met Ala Ala Arg
207            965              970              975
208   ccc atg gtc gtg ttg ggg ttg agc atc agc aaa tac tac ggc atg gcc    2976
209   Pro Met Val Val Leu Gly Leu Ser Ile Ser Lys Tyr Tyr Gly Met Ala
210            980              985              990
211   ggc aac gac cgt gtg ttt cag gcc ggg aac tgg gcc agc ctg atg ggc    3024
212   Gly Asn Asp Arg Val Phe Gln Ala Gly Asn Trp Ala Ser Leu Met Gly
213            995              1000             1005
214   ggc aaa aac gcg tgc ccg ctc ctt att ttt gac cgc acc cgc aag ttc    3072
215   Gly Lys Asn Ala Cys Pro Leu Leu Ile Phe Asp Arg Thr Arg Lys Phe
216            1010             1015             1020
217   gtc ctg gcc tgt ccc cgg gcc ggg ttt gtg tgc gcg gcc tcg aac ctc    3120
218   Val Leu Ala Cys Pro Arg Ala Gly Phe Val Cys Ala Ala Ser Asn Leu
219   1025             1030             1035             1040
220   ggc ggc gga gcg cac gaa agc tcg ctg tgc gag cag ctc cgg ggc att    3168
221   Gly Gly Gly Ala His Glu Ser Ser Leu Cys Glu Gln Leu Arg Gly Ile
222            1045             1050             1055
223   atc tcc gag ggc ggg gcg gcc gtc gcc agt agc gtg ttc gtg gcg acc    3216
224   Ile Ser Glu Gly Gly Ala Ala Val Ala Ser Ser Val Phe Val Ala Thr
225            1060             1065             1070
226   gtg aaa agc ctg ggg ccc cgc acc cag cag ctg cag atc gag gac tgg    3264
227   Val Lys Ser Leu Gly Pro Arg Thr Gln Gln Leu Gln Ile Glu Asp Trp
228            1075             1080             1085
229   ctg gcg ctc ctg gag gac gag tac cta agc gag gag atg atg gag ctg    3312
230   Leu Ala Leu Leu Glu Asp Glu Tyr Leu Ser Glu Glu Met Met Glu Leu
231            1090             1095             1100
232   acc gcg cgt gcc ctg gag cgc ggc aac ggc gag tgg tcg acg gac gcg    3360
233   Thr Ala Arg Ala Leu Glu Arg Gly Asn Gly Glu Trp Ser Thr Asp Ala
234   1105             1110             1115             1120
235   gcc ctg gag gtg gcg cac gag gcc gag gcc cta gtc agc caa ctc ggc    3408
236   Ala Leu Glu Val Ala His Glu Ala Glu Ala Leu Val Ser Gln Leu Gly
237            1125             1130             1135
238   aac gcc ggg gag gtg ttt aac ttt ggg gat ttt ggc tgc gag gac gac    3456
239   Asn Ala Gly Glu Val Phe Asn Phe Gly Asp Phe Gly Cys Glu Asp Asp
240            1140             1145             1150
241   aac gcg acg ccg ttc ggc ggc ccg ggg gcc ccg gga ccg gca ttt gcc    3504
242   Asn Ala Thr Pro Phe Gly Gly Pro Gly Ala Pro Gly Pro Ala Phe Ala
243            1155             1160             1165
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VERIFICATION SUMMARY
PATENT APPLICATION: US/10/050,673

DATE: 02/07/2002
TIME: 14:38:48

Input Set : **N:\Crf3\RULE60\10050673.raw**
Output Set: **N:\CRF3\02072002\J050673.raw**

L:517 M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (6) SEQUENCE: